



IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Gregg S. Schmidtke et al.

Confirmation No.:

Application No.: 09/813,205

Examiner: Jay M. Patidar

Filing Date: Mar. 20, 2001

Group Art Unit: 2862

Title: METHOD AND APPARATUS FOR SETTING FOCUS IN AN IMAGING DEVICE

Mail Stop Appeal Brief-Patents
Commissioner For Patents
PO Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF APPEAL BRIEF

Sir:

Transmitted herewith in **triplicate** is the Appeal Brief in this application with respect to the Notice of Appeal filed on May 6, 2004.

The fee for filing this Appeal Brief is (37 CFR 1.17(c)) \$330.00.

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

() (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)-(d) for the total number of months checked below:

() one month	\$110.00
() two months	\$420.00
() three months	\$950.00
() four months	\$1480.00

() The extension fee has already been filled in this application.

(X) (b) Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

Please charge to Deposit Account **08-2025** the sum of \$330.00. At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2025 pursuant to 37 CFR 1.25. Additionally please charge any fees to Deposit Account 08-2025 under 37 CFR 1.16 through 1.21 inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees. A duplicate copy of this sheet is enclosed.

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Respectfully submitted,

Gregg S. Schmidtke et al.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT
APPEALS AND INTERFERENCES

In Re Application of :)
)
Gregg S. Schmidtke et al.)
)
Serial No.: 09/813,205) Group Art Unit: 2862
)
Filed: March 20, 2001) Examiner: Jay M. Patidar
)
For: METHOD AND) Atty Dkt. 10013284-1
APPARATUS FOR)
SETTING FOCUS IN AN)
IMAGING DEVICE)

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This Appeal Brief is submitted in response to the final rejection of the claims mailed November 28, 2003. A Notice of Appeal was filed on May 10, 2004.

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(1) REAL PARTY IN INTEREST

The real party in interest in the above-referenced patent application is Hewlett-Packard Development Company, LP, a limited partnership established under the laws of the State of Texas and having a principal place of business at 20555 S.H. 249 Houston, TX 77070, U.S.A. (hereinafter "HPDC"). HPDC is a Texas limited partnership and is a wholly-owned affiliate of Hewlett-Packard Company, a Delaware Corporation, headquartered in Palo Alto, CA. The general or managing partner of HPDC is HPQ Holdings, LLC.

(2) RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences currently known to appellants, appellants' legal representatives or the assignee, which will directly affect, or be directly affected by, or have a bearing on, the Board's decision.

(3) STATUS OF CLAIMS

Claims 1-21 were originally filed with the application. Claims 2, 13, 20 and 21 were subsequently canceled. Accordingly, claims 1, 3-12 and 14-19 remain pending in the application at the time of appeal and stand rejected. The rejection of claims 1, 3-12 and 14-19 is appealed.

(4) STATUS OF AMENDMENTS

Appellants filed an amendment under 37 CFR §1.116 on January 16, 2004. In an Advisory Action mailed April 15, 2004, the Examiner indicated that this amendment would be entered for purposes of appeal. Other than as described above, no amendments were filed or entered subsequent to the final rejection mailed November 28, 2003.

(5) SUMMARY OF THE INVENTION

In general terms, an imaging apparatus and method are disclosed in which at least a pair of discontinuous reference surfaces are provided on a housing for locating a lens. The housing also includes a photosensor assembly reference surface. In this manner, the lens may be held in alignment with the photosensor assembly while the lens is moved for focusing purposes.

Appellants' invention as claimed is summarized and explained below with reference numerals, specification page numbers and drawing figure numbers indicating where the claim finds support in the specification and drawings.

1. An imaging apparatus comprising [Fig. 1]:
an imaging apparatus housing (100), said imaging apparatus housing (100) comprising at least one first reference surface (e.g., 324) and at least one second reference surface (e.g., 326), said first and second

reference surfaces being rigidly affixed to said housing (100) [Figs. 2-3; page 8, lines 32-36];

wherein, said at least one first reference surface (e.g., 324) is coplanar with said at least one second reference surface (e.g., 326) [Figs. 3-4; page 8, line 36 - page 9, line 1];

wherein, said at least one first reference surface (e.g., 324) is discontinuous with said at least one second reference surface (e.g., 326) [Figs. 3-4; page 9, lines 1-3];

at least one lens assembly (210) in contact with both said at least one first and at least one second reference surfaces [Fig. 5; page 9, lines 3-6];

a photosensor assembly (152) [Fig. 12; page 11, lines 26-28];

wherein, said housing (100) further includes at least one photosensor assembly reference surface (158, 160, 162, 164); [Fig. 2; page 11, line 33 - page 12, line 9] and

wherein, at least a portion of said photosensor assembly (152) is in contact with said at least one photosensor assembly reference surface (158, 160, 162, 164) [Fig. 12; page 11, line 33 - page 12, line 9].

3. The imaging apparatus of claim 1 and further comprising:
a recess (e.g., 328) formed between said at least one first reference surface (e.g., 324) and said at least one second reference surface (e.g., 326) [Figs. 3-4; page 13, lines 33 - 36, page 14, lines 20-23].

4. The imaging apparatus of claim 1 wherein:
said lens assembly (210) has a generally cylindrical outer profile;
and
said generally cylindrical outer profile is in contact with both said
at least one first and at least one second reference surfaces [Figs. 5-6;
page 15, lines 28-32].

5. The imaging apparatus of claim 1 wherein:
said imaging apparatus housing (100) further comprises at least
one third reference surface (e.g., 354) and at least one fourth reference
surface (e.g., 356) [Figs. 2-3; page 8, lines 32-36];
wherein, said at least one third reference surface (e.g., 354) is
coplanar with said at least one fourth reference surface (e.g., 356) [Fig. 4;
page 8, line 36 - page 9, line 1];
wherein, said at least one third reference surface (e.g., 354) is
discontinuous with said at least one fourth reference surface (e.g., 356)
[Fig. 4; page 9, lines 1-3];
said at least one lens assembly (210) is in contact with both said at
least one third and said at least one fourth reference surfaces [Fig. 5;
page 9, lines 3-6].

6. The imaging apparatus of claim 5 and further comprising:

a recess (e.g., 358) formed between said at least one third reference surface (e.g., 354) and said at least one fourth reference surface (e.g., 356) [Fig. 4; page 13, lines 33 - 36, page 14, lines 20-23].

7. The imaging apparatus of claim 5 wherein said at least one first reference surface (e.g., 324) is not coplanar with said at least one third reference surface (e.g., 354) [Figs. 3, 4 and 6].

8. The imaging apparatus of claim 5 wherein said at least one first reference surface (324) and said at least one third reference surface (354) together form a v-shaped configuration [Fig. 6].

9. The imaging apparatus of claim 1 wherein:
said housing (100) further comprises at least one wall member (46) [Fig. 2; page 11, lines 12-19];

said at least one first reference surface (e.g., 324)) and said at least one second reference surface (e.g., 326) are integrally formed in said wall member (46) [Fig. 2; page 11, lines 12-19];

said wall member (46) includes a mounting mechanism (56) integrally formed therein [Fig. 2; page 11, lines 12-19]; and

a light source mounted on said mounting mechanism (56) [Fig. 2; page 11, lines 12-19].

10. A method of assembling an imaging apparatus, said method comprising:

providing an imaging apparatus housing (100) comprising at least one first reference surface (e.g., 324) and at least one second reference surface (e.g., 326), said first and second reference surfaces being rigidly affixed to said housing (100) [Figs. 2-3; page 8, lines 32-36];

providing at least one lens (210) [Fig. 5; page 9, lines 3-6];

wherein, said at least one first reference surface (e.g., 324) is coplanar with said at least one second reference surface (e.g., 326) [Figs. 3-4; page 8, line 36 - page 9, line 1];

wherein, said at least one first reference surface (e.g., 324) is discontinuous with said at least one second reference surface (e.g., 326) [Figs. 3-4; page 9, lines 1-3];

using said at least one first reference surface (e.g., 324) and said at least one second reference surface (e.g., 326) to align said lens (210) with said imaging apparatus housing (100) by contacting said lens (210) with said at least one first reference surface (e.g., 324) and said at least one second reference surface (e.g., 326) [Fig. 5; page 9, lines 3-6];

providing at least one photosensor assembly (152) [Fig. 12; page 11, lines 26-28;

providing said housing (100) with at least one photosensor assembly reference surface (158, 160, 162, 164) [Fig. 2; page 11, line 33 - page 12, line 9]; and

aligning said at least one photosensor assembly (152) with said housing (100) by contacting at least a portion of said photosensor assembly (152) with said photosensor assembly reference surface (158, 160, 162, 164) [Fig. 12; page 11, line 33 - page 12, line 9].

11. The method of claim 10 and further comprising:
providing said lens (210) housed within a lens assembly [Figs. 2, 5 and 6]; and
wherein said using said at least one first reference surface (e.g., 324] and said at least one second reference surface (e.g., 326) to align said lens (210) comprises contacting said lens assembly with said at least one first reference surface (e.g., 324) and said at least one second reference surface (e.g., 326) [Figs. 5-6; page 15, lines 28-32].

12. The method of claim 11 and further comprising:
adjusting the focus of said at least one lens assembly by sliding said lens assembly along said at least one first reference surface (e.g., 324) and said at least one second reference surface (e.g., 326) [Fig. 13; page 7, lines 22-30].

14. The method of claim 10 further comprising:
providing a recess (e.g., 328) formed between said at least one first reference surface (e.g., 324) and said at least one second reference

surface (e.g., 326) [Figs. 3-4; page 13, lines 33 - 36, page 14, lines 20-23].

15. The method of claim 11 wherein:

said lens assembly has a generally cylindrical outer profile; and

said contacting said lens assembly with said at least one first reference surface (e.g., 324) and said at least one second reference surface (e.g., 326) comprises contacting said generally cylindrical outer profile with said at least one first reference surface (e.g., 324) and at least one second reference surface (e.g., 326) [Figs. 5-6; page 15, lines 28-32].

16. The method of claim 10 and further comprising:

providing said imaging apparatus housing (100) with at least one third reference surface (e.g., 354) and at least one fourth reference surface (e.g., 356) [Figs. 2-3; page 8, lines 32-36];

wherein, said at least one third reference surface (e.g., 354) is coplanar with said at least one fourth reference surface (e.g., 356) [Fig. 4; page 8, line 36 - page 9, line 1];

wherein, said at least one third reference surface (e.g., 354) is discontinuous with said at least one fourth reference surface (e.g., 356) [Fig. 4; page 9, lines 1-3]; and

using said at least one third reference surface (e.g., 354) and said at least one fourth reference surface (e.g., 356) to align said lens with said imaging apparatus housing (200) [Fig. 5; page 9, lines 3-6].

17. The method of claim 16 and further comprising:
providing a recess (e.g., 358) between said at least one third
reference surface (e.g., 354) and said at least one fourth reference surface
(e.g., 356) [Fig. 4; page 13, lines 33 - 36, page 14, lines 20-23].

18. The method of claim 16 wherein said at least one first
reference surface (e.g., 324) is not coplanar with said at least one third
reference surface (e.g., 354) [Figs. 3, 4 and 6].

19. The method of claim 16 wherein said at least one first
reference surface (e.g., 324) and said at least one third reference surface
(e.g., 354) together form a v-shaped configuration [Fig. 6].

(6) ISSUES

A. Whether claim 1 is unpatentable under 35 U.S.C. §103(a) as being
obvious over Ashe et al. U.S. Patent 6,178,016 in view of Harrigan
et al. U.S. Patent 6,069,752.

(7) GROUPING OF CLAIMS

Claims 3-12 and 14-19 stand or fall with claim 1.

(8) ARGUMENT

Relevant Law

Legal Basis for Obviousness Under 35 U.S.C. §103

The test for obviousness under 35 U.S.C. 103 is whether the claimed invention would have been obvious to those skilled in the art in light of the knowledge made available by the reference or references. *In re Donovan*, 184 USPQ 414, 420, n. 3 (CCPA 1975). It requires consideration of the entirety of the disclosures of the references. *In re Rinehart*, 189 USPQ 143, 146 (CCPA 1976). All limitations of the Claims must be considered. *In re Boe*, 184 USPQ 38, 40 (CCPA 1974). In making a determination as to obviousness, the references must be read without benefit of applicants' teachings. *In re Meng*, 181 USPQ 94, 97 (CCPA 1974). In addition, the propriety of a Section 103 rejection is to be determined by whether the reference teachings appear to be sufficient for one of ordinary skill in the relevant art having the references before him to make the proposed substitution, combination, or other modifications. *In re Lintner*, 173 USPQ 560, 562 (CCPA 1972).

In the case of *In re Wright*, 6 USPQ 2d 1959 (CAFC 1988), the CAFC decided that the Patent Office had improperly combined references which did not suggest the properties and results of the applicants' invention nor suggest the claimed combination as a solution to the problem which applicants' invention solved.

The CCPA reached this conclusion after an analysis of the prior case law, at p. 1961:

We repeat the mandate of 35 U.S.C. 103: it is the invention as a whole that must be considered in obviousness determinations. The invention as a whole embraces the structure, its properties, and the problem it solves. See, e.g., *Cable Electric Products, Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1025, 226 USPQ 881, 886 (Fed. Cir. 1985) ("In evaluating obviousness, the hypothetical person of ordinary skill in the pertinent art is presumed to have the 'ability to select and utilize knowledge from other arts reasonably pertinent to [the] particular problem' to which the invention is directed"), quoting *In re Antle*, 444 F.2d 1168, 1171-72, 170 USPQ 285, 287-88 (CCPA 1971); *In re Antonie*, 559 F.2d 618, 619, 195 USPQ 6, 8 (CCPA 1977) ("In delineating the invention as a whole, we look not only in the claim in question... but also to those properties of the subject matter which are inherent in the subject matter and are disclosed in the specification") (emphasis in original).

The determination of whether a novel structure is or is not "obvious" requires cognizance of the properties of that structure and the problem which it solves, viewed in light of the teachings of the prior art. See, e.g., *In re Rinehart*, 531 F.2d 1048, 1054, 189 USPQ 143, 149 (CCPA 1976) (the particular problem facing the inventor must be considered in determining obviousness); see also *Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick Co.*, 730 F.2d 1452, 1462, 221 USPQ 481, 488 (Fed. Cir. 1984) (it is error to focus "solely on the product created, rather than on the obviousness or notoriousness of its creation") (quoting *General Motors Corp. v. U.S. Int'l Trade Comm'n*, 687 F.2d 476, 483, 215 USPQ 484, 489 (CCPA 1982), cert. denied, 459 U.S. 1105 (1983)).

Thus the question is whether what the inventor did would have been obvious to one of ordinary skill in the art

attempting to solve the problem upon which the inventor was working. *Rinehart*, 531 F.2d at 1054, 189 USPQ at 149; see also *In re Benno*, 768 F.2d 1340, 1345, 226 USPQ 683, 687 (Fed. Cir. 1985) ("appellant's problem" and the prior art present different problems requiring different solutions").

A basic mandate inherent in Section 103 is that a piecemeal reconstruction of prior art patents shall not be the basis for a holding of obviousness. It is impermissible within the framework of Section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. *In re Kamm*, 172 USPQ 298, 301-302 (CCPA 1972). Phrased somewhat differently, the fact that inventions of the references and of applicants may be directed to concepts for solving the same problem does not serve as a basis for arbitrarily choosing elements from references to attempt to fashion applicants' claimed invention. *In re Donovan*, 184 USPQ 414, 420 (CCPA 1975).

It is also clearly established in the case law that a change in the mode of operation of a device which renders that device inoperative for its stated utility as set forth in the cited reference renders the reference improper for use to support an obviousness-type rejection predicated on such a change. See, e.g., *Diamond International Corp. v. Walterhoefer*, 289 F.Supp. 550, 159 USPQ 452, 460-61 (D.Md. 1968); *Ex parte Weber*, 154 USPQ 491, 492 (Bd.App. 1967). In addition, any attempt to

combine the teaching of one reference with that of another in such a manner as to render the invention of the first reference inoperative is not permissible. See, e.g., *Ex parte Hartmann*, 186 USPQ 366 (Bd.App. 1974); and *Ex parte Sternau*, 155 USPQ 733 (Bd.App. 1967).

A reference which teaches away from the applicants' invention may not properly be used in framing a 35 U.S.C. 103 rejection of applicants' claims. See *United States v. Adams*, 148 USPQ 429 (Sup. Ct. 1966).

Argument re Issue A

Claim 1 stands rejected under 35 U.S.C. §103(a) as being obvious over Ashe et al. U.S. Patent 6,178,016 in view of Harrigan et al. U.S. Patent 6,069,752.

It is submitted that claim 1 is not unpatentable over Ashe et al. in view of Harrigan et al. and that, further, the invention recited in claim 1 is not disclosed or suggested by any of the prior art of record, considered either alone or in proper combination.

Appellants' claim 1 recites the following:

An imaging apparatus comprising:

an imaging apparatus housing, said imaging apparatus housing comprising at least one first reference surface and at least one second reference surface, said first and second reference surfaces being rigidly affixed to said housing;

wherein, said at least one first reference surface is coplanar with said at least one second reference surface;

wherein, said at least one first reference surface is discontinuous with said at least one second reference surface;

at least one lens assembly in contact with both said at least one first and at least one second reference surfaces;

a photosensor assembly;

wherein, said housing further includes at least one
photosensor assembly reference surface; and

wherein, at least a portion of said photosensor assembly is in
contact with said at least one photosensor assembly reference
surface.

Appellants' claim 1, thus, recites at least first and second
discontinuous reference surfaces that are rigidly affixed to the housing.
The Examiner admits that Ashe et al. discloses only spring-biased
reference pads and thus fails to disclose reference surfaces as recited in
appellants' claim. The Examiner, however, takes the position that it
would have been obvious, in view of the teaching in Harrigan et al., to
modify the structure disclosed by Ashe et al. to provide rigidly mounted
reference surfaces as recited in appellants' claim 1 in place of the spring
biased reference pads contemplated by Ashe et al. Specifically, the
Examiner asserts that it would be obvious to replace the spring-biased
reference pads of Ashe et al. (note the pressure pads 105 mounted on
spring fingers 104 in Fig. 6 of Ashe et al.) with reference surfaces as
disclosed in Harrigan et al. (note the V-shaped supports 82a, 82b in Fig.
7 of Harrigan et al.).

Appellants respectfully assert, for the reasons advanced below,
that the Examiner's rejection is improper and that a *prima facie* case of
obviousness has not been established.

I. Legal Requirements for a *Prima Facie* Case of Obviousness

MPEP Section 706.02(j) sets forth the following regarding the establishment of a *prima facie* case of obviousness:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.

The MPEP, thus, generally sets forth three requirements for establishing a *prima facie* case of obviousness:

1. there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings;
2. there must be a reasonable expectation of success; and
3. the prior art reference (or references when combined) must teach or suggest all the claim limitations;

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In addition, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.

II. A *Prima Facie* Case of Obviousness has not been Established

Appellants respectfully assert that a *prima facie* case has not been established for at least the following reasons which are individually discussed in further detail below:

- A) There is no motivation to combine the Ashe et al. and Harrigan et al. references as proposed by the Examiner
- B) Ashe et al. teaches away from appellants' invention
- C) The Examiner's proposed combination would result in an inoperative device

A) There is No Motivation to Combine

Appellants respectfully assert that the Examiner has failed to establish a *prima facie* case of obviousness because there is no suggestion or motivation to combine the reference teachings as proposed by the Examiner. In the final rejection, the Examiner asserts that all of the elements of appellants' claim 1 can be found in the prior art references. This, however, is *not* the proper test for obviousness.

"It is insufficient to establish obviousness that the separate elements of the invention existed in the prior art, absent some teaching or suggestion, in the prior art, to combine the elements."

Arkie Lures, Inc. v. Gene Larew Tackle, Inc., 119 F.3d 953, 957, 43 USPQ2d 1294, 1297 (Fed. Cir. 1997).

The Examiner has provided no basis for a teaching or suggestion in the prior art for combining elements as proposed in the final rejection. The Examiner's argument regarding obviousness is as follows:

It would have been obvious to one skilled in the art, at the time of the invention, to provide the imaging apparatus of Ashe with a different type of reference surface arrangement for supporting and aligning the lens assembly, such as the [rigidly] affixed, V-shaped, four surface configuration disclosed by Harrigan. *A four surface support configuration would provide a more stable support for the lens assembly and eliminate the need for spring biasing the pair of pad reference surfaces.*

(final rejection, page 3, emphasis added)

The single sentence italicized above represents the Examiner's only explanation regarding a teaching or suggestion to combine. This sentence, however, is simply an *unsupported statement* made by the Examiner. In order to establish a *prima facie* case, a teaching or suggestion to combine must be found *in the prior art*. See, e.g., *Arkie Lures, Inc. v. Gene Larew Tackle, Inc.*, *supra*. The Examiner has not referred to any prior art in support of his position that a motivation or suggestion to combine exists but, instead, apparently expects his unsupported conclusory statement to suffice. Such an unsupported statement, however, cannot constitute the evidence required to establish existence of a motivation or suggestion to combine:

Whether the Board relies on an express or an implicit showing [of a motivation, suggestion or teaching to modify the teachings of a reference], it must provide particular findings related thereto.... Broad conclusory statements standing alone are not “evidence”.

In re Kotzab, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) (citing *In re Dembiczak*, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999))

Accordingly, the Examiner’s statement does not constitute a showing of a teaching or suggestion to combine. At the very least, an examiner must prove that some motivation or suggestion to combine can be found in knowledge generally available to one of ordinary skill in the art (see, MPEP 706.02(j) reproduced above). In the present case, however, the Examiner provides no evidence that the requisite knowledge is generally available but, instead, attempts to rely on his own personal opinion. Such personal opinion does not represent an adequate substitute for evidence.

Appellants further disagree with the *substance* of the Examiner’s statement. Specifically, as noted above, the Examiner asserts that a “four surface support configuration would provide a more stable support for the lens assembly.” Appellants take issue with this position and assert that it is not clear that the four surface support configuration of Harrigan et al. would *necessarily* be more stable than the support configuration disclosed by Ashe et al. and the Examiner has cited no evidence tending to support this proposition. The Examiner’s statement further implies that it would be beneficial to “eliminate the need for spring biasing the pair of pad reference surfaces” of Ashe et al. To the contrary however,

as discussed in further detail below, spring biasing of the reference pads is a *critical feature* in the Ashe et al. device and, in fact, is *necessary for proper operation* thereof; accordingly, Ashe et al. clearly does not suggest that eliminating the spring biasing would be beneficial. Once again, the Examiner fails to produce evidence and relies instead on an unsupported conclusory statement of personal opinion.

In short, it appears that the Examiner's proposed combination of Ashe et al. and Harrigan et al. is based solely on hindsight derived from appellants' specification. The use of hindsight in this manner is clearly prohibited by the relevant case law:

Obviousness can not be established by hindsight combination to produce the claimed invention. *In re Gorman*, 933 F.2d 982, 986, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991). As discussed in *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985), it is the prior art itself, and not the applicant's achievement, that must establish the obviousness of the combination.

In re Dance, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998)

Obviousness may not be established using hindsight. *See W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1551, 220 USPQ 303, 312-13 (Fed. Cir. 1983).

Kahn v. General Motors Corp., 45 USPQ2d 1608, 1613 (Fed. Cir. 1998)

B) Ashe et al. Teaches Away from Appellants' Invention

Appellants further assert that there is no motivation to combine the Ashe et al. and Harrigan et al. references as proposed by the Examiner because, as explained below, Ashe et al. actually *teaches away* from the use of rigidly-affixed reference surfaces.

With reference, for example, to Figs. 5 and 6 of Ashe et al., the pads in question are denoted by the reference numeral 105. The pads 105, in turn, are formed on flexible spring fingers 104. Ashe et al. discusses the pads 105 and spring fingers 104, for example, as follows:

Flexible spring fingers 104 with pressure pads 105 are molded into the lower collar segment 103 to temporarily hold the lens mount 78 in place until focusing alignment is completed, at which time the lens is permanently retained by adhesive injected through either one or both of the space bridging the spring fingers with the lens mount 78 and the lens adjustment slot 79a in the upper body portion 72, preferably the latter.

(Ashe et al., col. 5, lines 7-14)

Ashe et al., thus, discusses resiliently-biased pads provided in order to hold the lens in place (against the lower surface of the upper body portion 72 - see, e.g., Fig. 5) during focusing. The importance of the resiliently-biased pads in the Ashe et al. device is further stressed by the following discussion of the design of the fingers 104:

The spring fingers 104 are sized such that the contact force, determined by the deflection after assembly of the fingers, is

enough to hold the focusing lens assembly 76 in place during the assembly process and the yield stress of the material is not exceeded.

(Ashe et al., col. 5, lines 16-21)

Notably, Ashe et al. discusses above the importance of not exceeding the yield strength of the material from which the fingers 104 are formed, since beyond yield strength, a material is no longer resilient. Ashe et al., thus, stresses the importance of using resiliently-biased pads in order to hold the lens in place during focusing. For the reasons set forth above, appellants respectfully assert that Ashe et al. teaches away from the use of rigidly-affixed reference surfaces as recited in appellants' claim 1.

A reference which *teaches away* from the appellants' invention may not properly be used in framing a 35 U.S.C. 103 rejection of applicants' claims. See *United States v. Adams*, 148 USPQ 429 (Sup. Ct. 1966). The MPEP also discusses this concept:

It is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 218 USPQ 769, 779 (Fed. Cir. 1983) (The claimed catalyst which contained both iron and an alkali metal was not suggested by the combination of a reference which taught the interchangeability of antimony and alkali metal with the same beneficial result, combined with a reference expressly excluding antimony from, and adding iron to, a catalyst.).

(MPEP 2145 X. D. 2.)

A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984)

(MPEP 2141.02, underlining in original)

C) The Examiner's Proposed Combination Would Result in an Inoperative Device

That Ashe et al. teaches away from appellants' invention is further evidenced by the fact that the proposed combination of Harrigan et al. and Ashe et al. would result in an *inoperative device*.

If when combined, the references "would produce a seemingly inoperative device," then they teach away from their combination. *In re Sponnoble*, 405 F.2d 578, 587, 160 USPQ 237, 244 (CCPA 1969); see also *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984) (finding no suggestion to modify a prior art device where the modification would render the device inoperable for its intended purpose).

Tec Air Inc. v. Denso Manufacturing Michigan Inc., 52 USPQ2d 1294, 1298 (Fed. Cir. 1999)

As discussed above, Ashe et al. discloses that resiliently-biased pads are critical to proper operation of the device (i.e., by providing sufficient contact force to hold the focusing lens assembly 76 in place

during the assembly process). Accordingly, the Examiner's proposal to modify the Ashe et al. device by replacing the Ashe et al. resiliently-biased pads with rigidly-mounted surfaces would result in an inoperative device. The Examiner's proposed modification, thus, cannot be considered to be an obvious modification.

... it is generally settled that the change in prior art device which makes the device inoperable for its intended purpose cannot be considered to be an obvious change. *Hughes Aircraft Co v. United States*, 215 U.S.P.Q. 787, 804 (Ct.Cl. Trial Div. 1982) modified (to affirm validity and reverse infringement holding), 717 F.2d 1351 [219 USPQ 473] (Fed. Cir. 1983).

As quoted in *Bausch & Lomb Inc. v. Barnes-Hind/Hydrocurve Inc.*, 10 USPQ2d 1929 (DC N.Cal. 1989)

For the reasons set forth above, appellants respectfully assert that the rejection of claim 1 is improper.

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Accordingly, all of the claims are believed to be allowable and all of the rejections should be reversed.

Respectfully submitted,

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By  JULY 6, 2004

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(9) APPENDIX

1. An imaging apparatus comprising:

an imaging apparatus housing, said imaging apparatus housing comprising at least one first reference surface and at least one second reference surface, said first and second reference surfaces being rigidly affixed to said housing;

wherein, said at least one first reference surface is coplanar with said at least one second reference surface;

wherein, said at least one first reference surface is discontinuous with said at least one second reference surface;

at least one lens assembly in contact with both said at least one first and at least one second reference surfaces;

a photosensor assembly;

wherein, said housing further includes at least one photosensor assembly reference surface; and

wherein, at least a portion of said photosensor assembly is in contact with said at least one photosensor assembly reference surface.

3. The imaging apparatus of claim 1 and further comprising:

a recess formed between said at least one first reference surface and said at least one second reference surface.

4. The imaging apparatus of claim 1 wherein:
said lens assembly has a generally cylindrical outer profile; and
said generally cylindrical outer profile is in contact with both said
at least one first and at least one second reference surfaces.

5. The imaging apparatus of claim 1 wherein:
said imaging apparatus housing further comprises at least one third
reference surface and at least one fourth reference surface;
wherein, said at least one third reference surface is coplanar with
said at least one fourth reference surface;
wherein, said at least one third reference surface is discontinuous
with said at least one fourth reference surface;
said at least one lens assembly is in contact with both said at least
one third and said at least one fourth reference surfaces.

6. The imaging apparatus of claim 5 and further comprising:
a recess formed between said at least one third reference surface
and said at least one fourth reference surface.

7. The imaging apparatus of claim 5 wherein said at least one
first reference surface is not coplanar with said at least one third
reference surface.

8. The imaging apparatus of claim 5 wherein said at least one first reference surface and said at least one third reference surface together form a v-shaped configuration.

9. The imaging apparatus of claim 1 wherein:
said housing further comprises at least one wall member;
said at least one first reference surface and said at least one second reference surface are integrally formed in a said wall member;
said wall member includes a mounting mechanism integrally formed therein; and
a light source mounted on said mounting mechanism.

10. A method of assembling an imaging apparatus, said method comprising:

providing an imaging apparatus housing comprising at least one first reference surface and at least one second reference surface, said first and second reference surfaces being rigidly affixed to said housing;

providing at least one lens;

wherein, said at least one first reference surface is coplanar with said at least one second reference surface;

wherein, said at least one first reference surface is discontinuous with said at least one second reference surface;

using said at least one first reference surface and said at least one second reference surface to align said lens with said imaging apparatus

housing by contacting said lens with said at least one first reference surface and said at least one second reference surface;

providing at least one photosensor assembly;

providing said housing with at least one photosensor assembly reference surface; and

aligning said at least one photosensor assembly with said housing by contacting at least a portion of said photosensor assembly with said photosensor assembly reference surface.

11. The method of claim 10 and further comprising:

providing said lens housed within a lens assembly; and

wherein said using said at least one first reference surface and said at least one second reference surface to align said lens comprises contacting said lens assembly with said at least one first reference surface and said at least one second reference surface.

12. The method of claim 11 and further comprising:

adjusting the focus of said at least one lens assembly by sliding said lens assembly along said at least one first reference surface and said at least one second reference surface.

14. The method of claim 10 further comprising:

providing a recess formed between said at least one first reference surface and said at least one second reference surface.

15. The method of claim 11 wherein:
said lens assembly has a generally cylindrical outer profile; and
said contacting said lens assembly with said at least one first
reference surface and said at least one second reference surface
comprises contacting said generally cylindrical outer profile with said at
least one first reference surface and at least one second reference surface.

16. The method of claim 10 and further comprising:
providing said imaging apparatus housing with at least one third
reference surface and at least one fourth reference surface;
wherein, said at least one third reference surface is coplanar with
said at least one fourth reference surface;
wherein, said at least one third reference surface is discontinuous
with said at least one fourth reference surface; and
using said at least one third reference surface and said at least one
fourth reference surface to align said lens with said imaging apparatus
housing.

17. The method of claim 16 and further comprising:
providing a recess between said at least one third reference surface
and said at least one fourth reference surface.

18. The method of claim 16 wherein said at least one first reference surface is not coplanar with said at least one third reference surface.

19. The method of claim 16 wherein said at least one first reference surface and said at least one third reference surface together form a v-shaped configuration.